

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/IL2004/000915

International filing date (day/month/year)
04.10.2004

Priority date (day/month/year)
09.10.2003

International Patent Classification (IPC) or both national classification and IPC
H01L27/06, H01L27/148, H01L31/02

Applicant
INTERON AS

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty; inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for International preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

10/575244
IAP9 Rec'd PCT/PTO 10 APR 2006
International application No.
PCT/IL2004/000915

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IL2004/000915

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	2-7,9,10,12-14
	No: Claims	1,8,11
Inventive step (IS)	Yes: Claims	2,9,13
	No: Claims	1,3-8,10-12,14
Industrial applicability (IA)	Yes: Claims	1-14
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VI Certain documents cited

1. Certain published documents (Rules 43bis.1 and 70.10)

and /or

2. Non-written disclosures (Rules 43bis.1 and 70.9)

see form 210

Re Item V.

1 The following documents are referred to in this communication:

D1 : TEWKSBURY S K ET AL: "Cointegration of optoelectronics and submicron CMOS" WAFER SCALE INTEGRATION, 1993. PROCEEDINGS., FIFTH ANNUAL IEEE INTERNATIONAL CONFERENCE ON SAN FRANCISCO, CA, USA 20-22 JAN. 1993, NEW YORK, NY, USA, IEEE, US, 20 January 1993 (1993-01-20), pages 358-367, XP010067696 ISBN: 0-7803-0867-0

D2 : WO 02/067014 A1 (REAL-TIME RADIOGRAPHY LTD; HAREL, ZE'EV; SCHIEBER, MICHAEL; SAADO, YEH) 29 August 2002 (2002-08-29)

D3 : WO 02/067014 A1 (REAL-TIME RADIOGRAPHY LTD; HAREL, ZE'EV; SCHIEBER, MICHAEL; SAADO, YEH) 29 August 2002 (2002-08-29)

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Document D1 discloses a method of fabricating a detector having a plurality of pixels each including a sensor element coupled to a sensor input of an electronic processing circuit, the method comprising:

integrating the electronic processing circuits on a CMOS wafer by stitching a plurality of reticles of at least two different types so as to form an integrated circuit having an array of electronic processing circuits each having a respective sensor disposed toward a first surface of the wafer and accessible from the first surface via a contact formed near an edge of the integrated circuit and disposing the sensor elements on the first surface of the respective integrated circuits whereby an exposed surface of the sensor elements forms a common first electrode towards which the incident photons are directed and an opposite unexposed surface thereof forms multiple second electrodes of opposite polarity to the first electrode each in registration with a corresponding sensor input (see D1, pag. 363-pag. 366, figs. 6-9 in particular). Therefore the subject matter of claim 1 is known from D1 and consequently not novel in the sense of Art. 33(2) PCT.

2.1. The subject-matter of dependent claims 3,6,7 is known from D2 (see D2, col. 5, line 58-col. 8, line 20; fig. 2-6), the subject-matter of claim 4 discloses the use of

mercuric iodide in detectors which is well known in the art (see e.g. D3, abstract), while dependent claim 5 discloses the mounting of a detector assembly on a PCB which is a standard procedure in the technique and is well known to the skilled person. Therefore dependent claims 3-7, do not contain any features which, in combination with the features of any claim to which they refer, e.g. claim 1, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

3. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 8 is not new in the sense of Article 33(2) PCT. The subject matter of claim 8 discloses the device that stems from the method disclosed in claim 1. As the method of claim 1 is not novel in view of the teachings of D1, it follows that the subject-matter of claim 8 is also not novel in the sense of Art 33(2) PCT.

3.1. The subject-matter of dependent claims 10-12, 14 (see D2, col. 5, line 58-col. 8, line 20; fig. 2-6) and 11 (see D1, pag. 363-pag. 366, figs. 6-9 in particular) is known from the prior art. Therefore claims 11-14 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

4. The subject-matter of dependent claim 2 appears to be neither anticipated nor rendered obvious by the teachings of the known prior art. The same applies to the corresponding "device" claim 9.